In The Specification

At page 2, line 11, please add the following new paragraph:

C1 Fig. 10 illustrates an embodiment of a detector coupled to a power amplifier in accordance with the present invention.

At page 3, beginning at line 20, please change the paragraph to read:

Thus, the intercept V_x, which depends on the particulars of the design of the log amps, and which is prone to error, is completely eliminated as a parameter. The output is simply proportional to the logarithm of V_A/V_B, with V_y setting the slope. Therefore, there is no need to temperature compensate the intercept. Moreover, since the system response is ratiometric with respect to V_A and V_B, it allows gain to be measured directly. For example, if the V_A and V_B inputs are connected to the input and output ports of a power amplifier 15 as shown in Fig. 10, the output V_{OUT} provides a measure of the gain of the power amplifier. Normally, gain is measured by measuring the absolute power or voltage at the input port, taking another absolute measurement at the output port, and then performing a computation by hand or with a microprocessor. With the present invention, however, the absolute magnitudes do not matter since the response is entirely ratiometric. A further advantage of the system of Fig. 4 is that it tends to cancel aberrations in the frequency responses of the individual log amps, thereby extending the effective frequency response of the entire system. These and other advantages will be explained in more detail below.

C2

At page 4, beginning at line 12, change the paragraph to read:

The present invention also contemplates many variations to the system shown in Fig. 4. For example, the differencing circuit can be modified to add or subtract the outputs from the log amps at will to produce a continuous product, a continuous quotient, a mixture of products and quotients, etc. This is especially easy if the log amps are implemented with differential current outputs which can be added or subtracted using simple wire connections as summing nodes. Moreover, although the embodiment of Fig. 4 only includes two log amps, a system in accordance with the present invention can utilize any number of log amps to provide additional functionality, such as the product of three, four, or more RF signals as shown in Fig. 9.

C3

At page 6, beginning at line 29, change the paragraph to read:

C4 The bias circuit 22 generates bias signals that are used for biasing the various components of the system of Fig. 6 and to set the slope of the log amps 10 and 12.